

IN THE CLAIMS

1-34. (Canceled)

35. (Withdrawn) An apparatus, comprising:

one or more processors; and

a memory containing instructions executable by the processors, the processors when executing the instructions operable to:

receive a request for a call, the request indicating whether encrypted links, satellite links, or public infrastructure links, or any combination thereof, are to be used for the call;

generate a signaling message for establishing a virtual circuit for the call, the signaling message generating according to an asynchronous transfer mode protocol and to be transferred along a signaling path;

identify a predefined type of information element associated with the signaling message, the predefined information element type being one designated under the protocol to specify which standard and proprietary capabilities are supported by at least one node along the signaling path;

insert, into an information element of the predefined information element type, an indication of whether at least one link type selected from the group comprising encrypted links, satellite links, and public infrastructure links is preferred or non-preferred for the virtual circuit, the indication accessible by one or more intermediary nodes that are located on the signaling path and capable of selecting links for the virtual circuit; and

transmit the signaling message having the indication inserted into the identified field.

36. (Withdrawn) The apparatus of claim 35 wherein capability for selecting links according to the indication is associated with an optional extension to the asynchronous transfer mode protocol, and the processors are further operable to:

insert organization identification data into the information element prior to transmitting the signaling message, the data uniquely identifying an organization providing the optional extension;

wherein the presence of the data in the identified field causes an intermediary node that is not configured with support for the organization's optional extension to flood the information element within its flooding domain regardless of whether it is capable of selecting links according to the indication.

37. (Withdrawn) The apparatus of claim 36 wherein the signaling message is interoperable with both intermediary nodes that are configured for support with the organization's optional extension and intermediary nodes that support the asynchronous transfer mode protocol but are not configured with support for the organization's optional extension.

38. (Withdrawn) The apparatus of claim 35 wherein the processors are further operable to:

format a predefined application type field of the information element to indicate that the information element is associated with an optional extension to the asynchronous transfer mode protocol; and

set a pass along bit in the information element to prevent nodes that do not understand the information element from dropping or rejecting the signaling message.

39. (Currently amended) An apparatus for processing a call having associated therewith a remotely-computed virtual circuit, comprising:

one or more processors; and

a memory containing instructions executable by the processors, the processors when executing the instructions operable to:

receive, at an intermediary node that comprises part of the remotely-computed virtual circuit, a service request for the call, the service request sent according to a protocol standard;

analyze, at [[an]] the intermediary node, [[the]] contents of the service request to identify any information elements marked as optional extensions to the protocol standard;

process the identified information elements at the intermediary node to determine whether there is included therein an indication of whether at least one link type selected from the group comprising encrypted links, satellite links, and public infrastructure links is preferred or non-preferred for the call;

if the indication is included, compare a table stored on the intermediary node to routing information for the remotely-computed virtual circuit to determine whether links that are within the intermediary node's flooding group and utilized by the remotely-computed virtual circuit correspond to the indication; and

assign a new virtual circuit for the call if the comparison indicates that the remotely-computed virtual circuit does not correspond to the indication, the new virtual circuit using at least one link from the intermediary node's flooding group that was not included in the remotely-computed virtual circuit;

wherein the service request is interoperable with ~~both~~ a first type of intermediary ~~node nodes~~ that [[are]] is configured for support with [[the]] an organization's optional extension and a second type of intermediary ~~node nodes~~ that ~~supports an~~ support the asynchronous transfer mode protocol but [[are]] is not configured with support for the organization's optional extension;

wherein the information element of the service request comprises:

a predefined application type field to indicate that the information element is associated with [[an]] the optional extension to the asynchronous transfer mode protocol; and

a pass along bit to prevent nodes that do not understand the information element from dropping or rejecting the signaling message.

40. (Previously Presented) The apparatus of Claim 39 wherein the new virtual circuit is computed at the intermediary node using a shortest path first routing protocol or an on-demand routing protocol, or combinations thereof.

41. (Previously Presented) The apparatus of claim 40 wherein the shortest path first routing protocol or the on-demand routing protocol, or combinations thereof are processed independent of information indicating whether a link type is an: encrypted link, satellite link, or public infrastructure link, or combinations thereof.

42. (Currently amended) The apparatus of claim 39 wherein the protocol standard is ~~[[an]]~~ the asynchronous transfer mode protocol and wherein the information element comprises organization identification data, the identification data uniquely identifying an organization providing the organization's optional extension wherein the presence of the identification data causes ~~[[a]]~~ the second type of intermediary node ~~that is not configured with support for the organization's optional extension~~ to flood the information element within its flooding group regardless of whether the second type of intermediary node is capable of selecting links according to the indication.

43. (Cancelled)

44. (Cancelled)

45. (Currently amended) The apparatus of claim 39 wherein the indication may be compared to a plurality of link type indicium wherein a first type of indicium used for determining corresponding links in a local intermediary node's flooding group is different than a second type of indicium used for determining corresponding links in a remote node's flooding group.

46. (Currently amended) An apparatus for processing a call having associated therewith a remotely-computed virtual circuit, comprising:

one or more processors; and
a memory containing instructions executable by the processors, the processors when executing the instructions operable to:

receive, at a border node of a flooding domain that comprises part of the remotely-computed virtual circuit, a service request for the call, the service request sent according to a protocol standard;

analyze, at the border node, ~~[[the]]~~ contents of the service request to identify any information elements marked as optional extensions to the protocol standard;

process the identified information elements at the border node to determine whether there is included therein an indication of whether at least one link type selected from the group comprising encrypted links, satellite links, public infrastructure links, policy links, or predefined quality of service links is preferred or non-preferred for the call;

if the indication is included, compare a topology database stored on the border node to routing information for the remotely-computed virtual circuit to determine whether links that are within the border node's flooding domain and utilized by the remotely-computed virtual circuit correspond to the indication; and

assign a new virtual circuit for the call if the comparison indicates that the remotely-computed virtual circuit does not correspond to the indication, the new virtual circuit ~~using~~ assigning at least one link from the border node's flooding domain, the assigned link being one that was not included in the remotely-computed virtual circuit;

wherein the service request is interoperable with both a first type of border node ~~nodes~~ that ~~[[are]]~~ is configured for support with ~~[[the]]~~ an organization's optional extension and a second type of border nodes ~~node~~ that supports an ~~support the~~ asynchronous transfer mode protocol but ~~[[are]]~~ is not configured with support for the organization's optional extension;

wherein the information element of the service request comprises:

a predefined application type field to indicate that the information element is associated with ~~[[an]]~~ the optional extension to the asynchronous transfer mode protocol; and

a pass along bit to prevent nodes that do not understand the information element from dropping or rejecting the signaling message.

47. (Previously Presented) The apparatus of Claim 46 wherein the new virtual circuit is computed at the border node using a shortest path first routing protocol or an on-demand routing protocol, or combinations thereof.

48. (Currently amended) The apparatus of claim 47 wherein the shortest path first routing protocol or [[an]] the on-demand routing protocol, or combinations thereof is processed using information independent of topology database information used to determine whether a link type is an: encrypted link, satellite link, public infrastructure link, policy link, or predefined quality of service link or combinations thereof.

49. (Currently amended) The apparatus of claim 46 wherein the protocol is [[an]] the asynchronous transfer mode protocol and wherein the information element comprises organization identification data, the identification data uniquely identifying an organization providing the organization's optional extension wherein the presence of the identification data in the identified predefined application type field causes [[a]] the second type of border node ~~that is not configured with support for the organization's optional extension~~ to flood the information element within its flooding domain regardless of whether it is capable of selecting links according to the indication.

50. (Cancelled)

51. (Cancelled)

52. (Currently amended) The apparatus of claim 46 wherein the indication may be compared to a plurality of link type indicium wherein [[an]] a first type of indicium used for determining corresponding links in a local border node's flooding domain is different than a second type of indicium used for determining corresponding links in a remote border node's flooding domain.

53-66. (Cancelled)